AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A pressure sensor device, comprising:

an elongate catheter including a plurality of fluid-entry ports formed in a sidewall thereof and having

a first lumen adapted to accommodate fluid flow therethrough and in fluid communication with the plurality of fluid-entry ports formed in the elongate catheter; and

a second, separate, fluid-filled, fluid-impermeable, sealed lumen filled with an incompressible fluid and extending between a flexible membrane that is spray-coated across an opening formed in the catheter and that is adapted to be exposed to an external pressure source, and a pressure sensor disposed across an open proximal end of the catheter and effective to measure pressure of the external pressure source in response to displacement of the flexible membrane, wherein the flexible membrane has a compliance that is in the range of about 0.05 μL/mmHg to 2 μL/mmHg.

2. (Canceled).

3. (Previously Presented) The device of claim 1, wherein the flexible membrane is disposed at a distal end of the second lumen, and the pressure sensor is coupled to a proximal end of the second lumen.

4. (Previously Presented) The device of claim 1, wherein the flexible membrane includes a first surface in contact with fluid within the second lumen, and a second, opposed surface adapted to be exposed to an external pressure source.

5-7. (Canceled).

8. (Previously Presented) The device of claim 1, wherein the flexible membrane is formed from a material selected from the group consisting of polyurethane, silicone, and solvent-based polymer solutions.

9. (Original) The device of claim 1, wherein the second lumen contains a predetermined volume of fluid.

10. (Original) The device of claim 9, wherein the second lumen is free of voids.

11. (Original) The device of claim 9, wherein the volume of fluid in the second lumen is in the range of about 1 μL to 10 μL.

12. (Original) The device of claim 1, wherein the fluid in the second lumen is a low viscosity silicone fluid.

13. (Original) The device of claim 1, wherein the fluid in the second lumen is a biocompatible fluid.

14. (Original) The device of claim 1, wherein the fluid in the second lumen has an average kinematic viscosity in the range of about 5 cs to 20 cs.

15. (Original) The device of claim 1, wherein the second lumen has a diameter that is less than a diameter of the first lumen.

16. (Canceled).

17. (Previously Presented) The device of claim 1, wherein the catheter has a compliance that is less than a compliance of the flexible membrane.

18. (Original) The device of claim 1, wherein the catheter has a low compliance such that it is not susceptible to deformation as a result of exposure to the external pressure source.

19. (Original) The device of claim 1, wherein the pressure sensor has a frequency response that is greater than 20 Hz.

20. (Original) The device of claim 1, wherein the pressure sensor has a compliance that is in the range of about 0.1 μL/mmHg to 0.02 μL/mmHg.

21. (Previously Presented) The device of claim 1, wherein the flexible membrane comprises a flexible sleeve that is formed around a distal end of the catheter and that is in fluid communication with the second lumen.

22. (Previously Presented) An intra-ventricular catheter, comprising:

an elongate member including a plurality of fluid-entry ports formed in a sidewall thereof and having a first lumen in fluid communication with the plurality of fluid-entry ports formed in the elongate member and adapted to accommodate fluid flow therethrough, and a second, fluid-sealed lumen containing an incompressible fluid, the second lumen having a pressure sensor disposed across an open proximal end of the catheter and coupled to a flexible membrane spray-coated across an opening formed in the sidewall of the catheter at a distal end of the catheter and that is adapted to respond to intra-ventricular pressure changes when disposed flush across the opening and when the catheter is implanted within a patient's ventricle such that direct pressure readings of the intra-ventricular pressure can be measured, wherein the flexible membrane has a compliance that is in the range of about 0.05 μL/mmHg to 2 μL/mmHg.

23. (Original) The intra-ventricular catheter of claim 22, wherein the pressure sensor is coupled to a proximal end of the second, fluid-sealed lumen.

24. (Previously Presented) The intra-ventricular catheter of claim 22, wherein the flexible membrane is formed across a discontinuity formed in a sidewall of the catheter.

25. (Canceled).

26. (Previously Presented) The intra-ventricular catheter of claim 22, wherein the fluid in the second lumen has a low viscosity.

27. (Original) The intra-ventricular catheter of claim 22, wherein the pressure sensor has a frequency response that is greater than 20 Hz.

28. (Previously Presented) The intra-ventricular catheter of claim 22, wherein the flexible membrane comprises a flexible sleeve that is formed around a distal end of the catheter and that is in fluid communication with the second lumen.

29. (Previously Presented) A method for measuring intra-ventricular pressure, comprising:

providing a ventricular catheter having

having a plurality of fluid-entry ports formed in a sidewall thereof,

a first lumen in fluid communication with the plurality of fluid-entry ports and adapted to accommodate fluid flow therethrough, and

a second, sealed, fluid-impermeable lumen containing an incompressible fluid and extending between a distal, flexible membrane that is spray-coated ~~across an opening formed in the~~ catheter and that is adapted to respond to pressure changes in a patient's ventricle, and a proximal pressure sensor disposed across an open proximal end of the catheter and adapted to measure the pressure changes, the flexible membrane has a compliance that is in the range of about 0.05 μL/mmHg to 2 μL/mmHg;

implanting the ventricular catheter in a patient's ventricle such that the flexible membrane is disposed within the ventricle and the pressure sensor is disposed at a location outside of the ventricle; and

obtaining at least one reading of the pressure within the patient's ventricle.

30. (Previously Presented) The method of claim 29, wherein the flexible membrane is formed across a discontinuity formed in a sidewall of the catheter.

31. (Canceled).

32. (Previously Presented) The method of claim 29, wherein the fluid in the second lumen has a low viscosity.

33. (Original) The method of claim 29, wherein the pressure sensor has a frequency response that is greater than about 20 Hz.

34-35. (Canceled).

36. (New) A pressure sensor device, comprising:

an elongate catheter including a plurality of fluid-entry ports formed in a sidewall thereof and having

a first lumen adapted to accommodate fluid flow therethrough and in fluid communication with the plurality of fluid-entry ports formed in the elongate catheter; and

a second, separate, fluid-filled, fluid-impermeable, sealed lumen filled with an incompressible fluid and extending between a flexible membrane that is disposed across an opening formed in the catheter and that is adapted to be exposed to an external pressure source, and a pressure sensor disposed across an open proximal end of the catheter and effective to measure pressure of the external pressure source in response to displacement of the flexible membrane.

37. (New) The device of claim 36, wherein the fluid in the second lumen has an average kinematic viscosity in the range of about 5 cs to 20 cs.

38. (New) The device of claim 36, wherein the second lumen has a diameter that is less than a diameter of the first lumen.

39. (New) The device of claim 36, wherein the catheter has a low compliance such that it is not susceptible to deformation as a result of exposure to the external pressure source.

40. (New) The device of claim 36, wherein the pressure sensor has a frequency response that is greater than 20 Hz.

41. (New) The device of claim 36, wherein the pressure sensor has a compliance that is in the range of about 0.1 μL/mmHg to 0.02 μL/mmHg.

42. (New) The device of claim 36, wherein the flexible membrane comprises a flexible sleeve that is formed around a distal end of the catheter and that is in fluid communication with the second lumen.

43. (New) A method for measuring intra-ventricular pressure, comprising:

providing a ventricular catheter having

having a plurality of fluid-entry ports formed in a sidewall thereof,

a first lumen in fluid communication with the plurality of fluid-entry ports and adapted to accommodate fluid flow therethrough, and

a second, sealed, fluid-impermeable lumen containing an incompressible fluid and extending between a distal, flexible membrane that is disposed across an opening formed in the catheter and that is adapted to respond to pressure changes in a patient's ventricle, and a proximal pressure sensor disposed across an open proximal end of the catheter and adapted to measure the pressure changes;

implanting the ventricular catheter in a patient's ventricle such that the flexible membrane is disposed within the ventricle and the pressure sensor is disposed at a location outside of the ventricle; and

obtaining at least one reading of the pressure within the patient's ventricle.

44. (New) The method of claim 43, wherein the flexible membrane is formed across a discontinuity formed in a sidewall of the catheter.